Restructured Upper Mississippi River - Illinois Waterway System Navigation Study
Public Meeting Presentation

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US ARMY CORPS OF ENGINEERS
Rock Island District

Text of the presentation given by Denny Lundberg. Lundberg is the project manager.

Opening Slide
Good Evening. I would like to thank you for you interest and attendance in this round of public meetings. Public input is an important part of our process.

Public Meeting Location Slide
The purpose of this series of public meetings is to provide you with an overview of the newly restructured navigation study. It has been more than two years since our last round of public meetings and we felt an update was needed. The presentation will be informational in nature, and we will provide an opportunity for questions and statements at the end of the slide presentation as Bill Wiedman has explained. We are very interested in your comments concerning the new direction of the study.

Agenda Slide
The agenda for today will include a brief history of navigation study activities between March 1993 and January 2000. I will also cover the events leading up to the restructuring of the navigation study, which covers the period between February 2000 and August 2001, and I will discuss the new restructuring of the navigation study, which started in August 2001 and will continue into the future.

March 1993-January 2000 Slide
Let me start by providing a brief summary of the activities that took place between March 1993 and January 2000.

System Slide
The original navigation study started in March 1993, and was very focused on addressing navigation improvement planning for the UMR-IWW River System for the years 2000-2050. The system nature of this study made it one of the most complex efforts ever undertaken by the Corps. The system was, and still is, defined as the segment of the Mississippi River from the confluence of the Ohio River to Upper St. Anthony Falls Lock in Minneapolis, Minnesota, and the entire Illinois Waterway. This system is:

- An integral part of the nation's inter-modal system for transporting commodities to world markets;
- Provides food and habitat for hundreds of species of birds, mammals, amphibians, reptiles, plants, macro-invertebrates, and fish;
- Contains more than 226,650 acres of national fish and wildlife refuges;
- Provides water supply for municipal and industrial use;
- Provides a playground for recreation and boating enthusiasts; and,
- Contains important cultural evidence of our nation's past.

Congestion Aerial
The principal problem that was being addressed in the original study was the potential for significant traffic delays or congestion on the system, which could result in economic losses to the nation.

Double Lockage Slide
Between 1993 and 2000, we assessed the need for navigation improvements to relieve congestion at 29 lock and dam sites on the Mississippi River and eight sites on the Illinois Waterway. The majority of the locks on the system are 110' X 600' long and were built in the 1930s. The predominant tow size on the system is 1,200 feet, which requires a double lockage process to transit a lock.

Alternatives Slide
The original study evaluated the condition and operating costs of the existing system, future operating system needs, and alternatives for reducing congestion. This included small-scale measures such as traffic management, mooring cells, and guidewall extensions, and large-scale measures such as new or extended locks.

Commodities Pie Chart
The study also evaluated the benefits of the existing system, which, by the way, has a Benefit/Cost Ratio of greater than five to one. The study also looked at the potential for increased traffic in the future, developed a new transportation benefit model, and developed a model to estimate regional economic impacts.

Site Specific Impacts
The environmental studies looked at potential site-specific construction impacts including loss or alteration of terrestrial and aquatic habitats, hydraulic changes in dam tailwaters, dredged material placement impacts, and impacts to historic structures.

Cumulative Impacts
These also included a cumulative effects assessment that considered the incremental impacts of an action when added to other past, present, and reasonably foreseeable future actions.

System Impacts
These environmental studies also evaluated systemic impacts, while focusing on traffic effects to five major environmental resources: fish, aquatic plants, mussels, bank erosion, and sedimentation to backwaters and side channels.

Public Outreach Slide
Public Outreach was accomplished through the series of public meetings listed here. Additional public outreach was accomplished through publication of 21 newsletters to a distribution of over 9,000, a 1-800 informational phone line, and a navigation study website.

February 2000-August 2001
Let me now focus on the events that caused a pause in the study and were instrumental in defining the new direction. These events took place between February 2000 and August 2001.

National Research Council

In February 2000, due to the much publicized controversy surrounding the study, the Department of Defense requested that the National Research Council (NRC), review study activities. Since a draft of the navigation study was not yet complete, the review centered on a preliminary draft and partially completed reports. The NRC provided an Interim Report to the DOD in February 2001. The NRC included many recommendations and comments in the 100+ page document, but let me focus on the four main issues that influenced the restructuring of the study. These included:

- Giving equal consideration of planning for fish and wildlife resources, along with navigation improvement planning;
- Addressing the effects of the existing nine-foot channel project;
- Recognizing the fact that forecasting 50 years into the future is a very difficult proposition to defend; and,
- That the development of a spatial equilibrium model was a good idea although the model did not go far enough, nor was sufficient data collected to validate assumptions.

Federal Principals Task Force

After release of the NRC review, the Corps announced a pause to the study to allow time to digest the comments and determine a new course of action. The Corps solicited help in this endeavor by forming a Federal Principals Task Force made up of senior members of the Fish and Wildlife Service, Environmental Protection Agency, Maritime Administration, Department of Agriculture, and the Corps. This task force provided a national level balance and guidance on important economic and environmental issues related to the NRC recommendations. A counterpart-working group defined as the Regional Interagency Work Group was also established to help guide the future of this study. The Federal Task Forced and Regional Interagency Work Group developed a series of issue papers and a concept paper that the Corps used to restructure the navigation study. The details of this effort can be found on the navigation study website.

Federal Principals Task Force Slide Summary of Recommendations

The summary of the Task Force recommendations relative to the NRC recommendations include:

- Their concurrence that equal consideration of planning for fish and wildlife resources should be considered in the new effort;
- They also concurred in addressing the effects of the existing nine-foot channel project;
- They agreed that forecasting 50 years into the future is extremely difficult, and recommended that a scenario-based analysis be used to help provide a range of potential traffic forecasts; and,
- The Task Force did not concur in the further development of a spatial equilibrium model. They concluded this was a research effort that should be developed separately from this study.

August 2001

These recommendations formed the basis for defining the restructuring of the navigation study. This guidance was officially transmitted on August 2, 2001, and the study was

restarted. Let me now talk about what has transpired since August, and where we are going from here.

Scope of Restructured Study Slide

The restructured study will look more holistically at the complicated inter-relationships between the environment, navigation system, and floodplain. It will work to ensure the waterway system continues to be a nationally treasured ecological resource, as well as an effective transportation system by seeking ways to:

- ✓ Reduce lock congestion;
- ✓ Achieve an environmentally sustainable system; and,
- ✓ Address ecosystem and floodplain management needs.

Handshake-Collaboration Slide

The key foundation of the restructured study is the new emphasis on collaboration among federal and state agencies, non-governmental organizations, and you the public. We had been working separately with economic and environmental interests in a coordination mode throughout this study, but the new direction has brought these interests together for a common purpose and given them more ownership in the process.

Stakeholders Slide

I would like to take this opportunity to introduce some of the members of the groups we have been collaborating with. They have agreed to be participants in this public meeting and are willing to answer any questions you may have about their involvement in this study. Please feel free to ask them questions after the presentation. With us today is:

List other Federal, state, and NGO's.

Sustainability Slide

Last November, a joint meeting was held between the old Economic Coordinating Committee and Navigation Environmental Coordinating Committee to develop a common understanding of sustainability of the river system. In the past, these groups met over 30 times, but never together. This joint group developed a common understanding of sustainability that is defined as

"The balance of economic, ecological, and social conditions so as to meet the current, projected, and future needs of the Upper Mississippi River System without compromising the ability of future generations to meet their needs."

Sustainability is the theme for the Restructured Navigation Study and other efforts going on in the system.

Original Study Comparison

As indicated previously, the original study was focused on relieving congestion. The restructured study is also focusing on relieving congestion, but the study scope will be expanded to try and achieve a sustainable system, and give equal consideration to ecosystem and floodplain management needs related to navigation.

Original Comparison Graphs.
Another way of comparing the difference is to look conceptually at the navigation system effects to the system over time. If we define navigation effects as traffic, then the yellow line represents historical traffic. The green line represents increases that may occur regardless if any improvements are made. The red line represents the increase in traffic with improvements. In the original study, the focus was on incremental effects of any proposed action, that is the area between the green and red line. In the restructured study, the focus will not only be on the incremental effects but also on the ongoing effects of the nine-foot channel project. As you know, there is considerable uncertainty in predicating the future traffic levels and navigation effects for the UMR system.

Scenario Cone Slide
An alternate method of forecasting suggested by the Federal Task Force, involves the development and analysis of scenarios to address the uncertainty inherent in any future predictions of traffic. The restructured navigation study will be using a scenario development process in lieu of the previous traffic forecasts. A scenario is neither a prediction of the future nor a proposed plan of action. No probabilities will be assigned to scenarios. They are meant to cover a broad range of plausible future world conditions in which alternatives will be evaluated.

Mississippi River Traffic
The scenario development will provide a broad range of possible future traffic conditions for which alternatives will be evaluated. This graph shows Mississippi River historical traffic from 1960 to 2000 in blue, and the potential range of future traffic in red that will be developed from the scenario development process. It is intuitive that the high red line would result in a greater need for navigation improvements, than the lower red line. We do not intend to establish a most likely scenario within the range shown.

Scenario Drivers
This broad range of potential future traffic will be developed by combining at a global level, different drivers such as world trade, land utilization, yields, and consumption. This range will likely extend from a high-end export forecast to a low-end export forecast. As indicated in the previous slide, it is not our intent to select any single scenario or forecast, but to evaluate alternatives across the broad range and try to focus on those that work will under a variety of different future world conditions.

Status and Trends, Cumulative Effects
There is also considerable uncertainty in forecasting the future condition of the river's ecosystem. The study will build upon previous efforts to determine and predict ecosystem health including the Status and Trends report prepared by the United States Geological Survey and the Cumulative Effects Study prepared as part of earlier navigation study efforts.

Ecological integrity
While the original study was concerned with the incremental impacts of traffic, the restructured study will look at ways to improve the river environment considering ongoing and future effects. This conceptual graph depicts a loss in system ecological integrity since the pooling of the river. Ecosystem improvement measures will be developed in an attempt to meet environmental goals and reach a desired state or

condition. Measures to address these ongoing effects may be recommended across the broad range of future worlds that will be evaluated.

Sustainable UMR
The Upper Mississippi River System comprises a variety of landforms, geomorphology, physical and chemical processes, habitats, and uses. We have been, and will continue, to work with the stakeholders of the system to ensure these factors are included into future planning efforts and establishments of goals and objectives.

Goals
Goals for future river management are best organized and described in a tiered fashion, by beginning with the broad goal of sustainability at the top and moving towards measurable objectives at the bottom. This allows agency staff and stakeholders to better frame the desired future state, and better identify and align potential measures to meet the goals.

HNA and Rivers that Work
An example of measurable objectives is contained in the Environmental Management Program, "Habitat Needs Assessment" and would include creation or restoration of 55,000 acres of backwaters and 24,000 acres of island habitat. The UMRCC "A River that Works and a Working River" also describes specific habitat objectives and potential measures to meet these needs. Both of these studies will be built upon, as plans are developed to achieve a sustainable environment.

Water Level Mgmt
An example of some measures that will be evaluated include modifications to Operations & Maintenance practices, fish passage at dams, and water level management changes as shown in this slide.

Island Protection and Restoration
Additional measures under consideration include backwater rehabilitation and island protection and creation, such as demonstrated by the historical series of photos taken for the Pool Eight project. This shows the loss of island habitat from 1961 to 1994, and the restoration effort accomplished in 2000.

Non-Structural Measures
The goals and objectives for economic sustainability of the river system will be initially based on developing plans that maximize net benefits to the nation. Navigation improvement measures that will be evaluated include non-structural measures such as industry self help, scheduling, n-up/n-down policies, congestion fees and tradable permit options that were suggested by the NRC.

Structural Measures
The structural measures to be evaluated will again include new locks, lock extensions, guidewall extension, and mooring cells.

Potential Alternatives
The question probably going through everyone's mind right now is, with all the complexity in defining future conditions and the number of measures that will be evaluated, how are we going to select a recommended plan. The environmental and navigation improvement measures will be combined to form a series of alternatives that

will be evaluated under the variety of potential future worlds. A hypothetical example of an alternative plan, designated A, may be a combination of ecosystem improvement measures such as modifications to O&M, fish passage at dams, water level management, additional backwater rehabilitation, and island protection and creation, and minimal navigation improvement measures such as continued O & M, periodic rehabilitation and Mooring Cells.

Potential Alternatives

Another hypothetical example of an alternative plan, designated M, could be a combination of ecosystem improvement measures and a larger set of navigation improvement measures to include new locks, guidewall extensions plus mitigation for site specific and systemic effects from these measures. You will notice that the environmental improvement measures are the same as Alternative A. This was done to illustrate that many of the ecosystem improvement measures are likely to be constant for the various future worlds under consideration.

Alternatives Assessment Matrix

All the various alternatives will be evaluated under a set of future world conditions and put into an alternatives assessment matrix. As a hypothetical example, lets define the range of future conditions whereby future world one incorporates a least favorable export scenario, and future world five incorporates a most favorable export scenario. Alternative A would probably be a good investment under future world one, but not under future world five. Alternative M would not be a good investment under future world one, but would be a good investment under future world five. With this matrix fully populated, the intent is to find the alternatives that work well under a variety of different future worlds. This information will serve as the basis for the stakeholders of the river system to weigh in on recommendations for future action.

Adaptive Management

Given the level of uncertainty about the future needs of the UMR, and about the potential effectiveness of improvement measures, an adaptive management framework has been endorsed by collaborating groups as a prudent approach to future planning and management. The adaptive management process really has no clear endpoint since it is a continuous process for planning, acting and evaluating. The feasibility report will include such an assessment, building from work already completed by the Corps and other agencies.

Interim Report

A requirement of the guidance for the restructured study is to produce an Interim Report to the feasibility study by July 2002. As you may recall, the Corps has never published a draft feasibility report or EIS for navigation study. The Interim Report will include a summary of past activities, and the events leading up to the restructuring of the study. This Interim Report will provide a blue print for moving forward with the feasibility study to insure sustainability of the system, provide an opportunity for stakeholder input into the study and identify issues of authority and the funding actions needed to resolve these issues. It will also provide a snapshot of where we are concerning development of future worlds and alternatives to be considered. Recommendations for full scale ecosystem and navigation improvement measures are not likely to be included in this interim report since economic and environmental evaluations will not be completed until 2003. The report may contain interim recommendations, however the recommendations

would need to have current authority and a broad base of support from the various basin interests.

Schedule Slide

The draft Interim Report will be completed in May 2002. It will be provided for review to the state and federal agencies and NGO's that have formed the core of the collaborative process. We intend to put a copy of this draft report on the website for review by the general public. The final Interim Repot will be submitted to USACE in July 2002. The final feasibility report schedule is somewhat dependent upon the Interim Report, however the tentative schedule of events for the final feasibility report is as follows. The full evaluations will be completed by winter 2003, and tentative plans will be available for review. We will be sharing these results at the next round of public meetings scheduled for Spring 2003. The draft feasibility study would be completed in winter 2004 with a Division Commander's notice and Chief's report to follow. Recommendations from this report could be considered in a WRDA 2004.

Questions?

We appreciate this opportunity to provide you with an update of the navigation study, and now would like to open it up for questions for either the Corps or stakeholders that were previously introduced. If you would please pass your question cards to the aisles, we will begin the collection process.

Information Slide

As we move along with this process, you can keep engaged by monitoring our 1-800 number, getting on the newsletter distribution, monitoring the website, or contacting me directly at the phone number and address shown. Thank you for attending this meeting. I will now turn the meeting back to Bill for moderating the question and statement period.